



FOREST TAX & STEWARDSHIP NEWS



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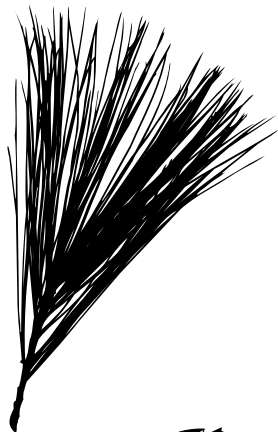
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ACT 25 Changes to the Managed Forest Law

Gary Steffen

Another change to the Managed Forest Law has been enacted. Last year, Act 228 changed the Managed Forest Law by altering fees, acreage share rates and the amount of closed acreage allowed by the law. This year the Governor signed Act 25 into law. The changes that were enacted affect the petition process for the Managed Forest Law (MFL).

All new petitions, including conversions from the Forest Crop Law to the MFL, that are submitted without an approved management plan written by an Independent Certified Plan Writer (ICPW), will now go through a referral process. Independent Certified Plan Writers are consultant foresters that have been certified by the Department of Natural Resources—Bureau of Forest Management to write management plans for the MFL. In the referral process, all new MFL applicants (who submit a petition without an ICPW-written management plan) will be placed on a referral list. An ICPW has 45 days to submit an offer to the MFL applicant to prepare the

plan. The ICPW must be able to guarantee that he or she can complete a plan by the required deadlines. This provision is meant to protect the MFL applicant from an ICPW submitting a bid and then not completing the plan (because he or she has acquired too many plans to complete). All offers to MFL applicants must be in writing.

If the MFL applicant does not receive a written offer within 45 days, a DNR forester will complete the plan. If a DNR forester completes the plan, there will be a plan preparation fee of \$375 per plan and \$5.60 per acre (this applies to plans prepared for the 2007 and 2008 entry years). Act 25 requires the department to charge the plan preparation fee for all plans it prepares for new MFL petitions and conversions. The fee is based upon an average of all successful bids in the state from previous years. The rates will be revised every year.

There is a program that provides cost sharing for the preparation of the MFL management plans—the Wisconsin

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Forest Landowner Grant Program (WFLGP). A landowner must apply and be approved, by the DNR forester, for the preparation of the MFL management plan before work on the plan begins. If approved, the landowner will be reimbursed for up to 50% of the actual cost to prepare a plan. Otherwise the landowner will pay 100% of the management plan preparation fee. If preparation of the MFL management plan begins before approval for cost sharing, then the landowner will not be cost shared for the plan preparation. You cannot apply for cost sharing after the practice has started or been completed. The cost sharing rules are very specific and require that the approval occur before the practice is started.

For cost sharing purposes the DNR Forester in the county will approve

a maximum rate for plan preparation based on recent work done in the county. For example, if the highest dollar amount for cost sharing management plans in county A is \$800 and an offer of \$1,500 for a plan is made, then cost sharing will only cover \$400 of the plan (50% of \$800). If the actual cost of the plan in county A is \$700, then \$350 would be cost shared. The approved rate in each county may vary. According to the rules of the referral process, an offer is an offer regardless if it is higher or lower than the maximum rate approved for cost sharing in the county.

Now that the landowner is responsible for the cost of preparing the plan the application fee was reduced from \$300 to \$20. The deadline is still July 1 (the effective date of entry into MFL is 18 months later) for all MFL petitions

submitted without an approved management plan. A landowner could contact an ICPW to have a plan prepared before submitting the petition. These landowners would not need to go through the referral process since they would already have an ICPW-prepared plan.

For landowners that miss the July 1 deadline date, there is a process that allows entry into the MFL without waiting for the next July 1 date. It requires that the petition and draft management plan prepared by an ICPW be submitted to the DNR forester for approval by February 1st. Then the completed and DNR approved plan with the complete petition is submitted to the DNR by May 15. The date of entry into the law would be the following January 1. ♡

Storm Damage in Your Woodlands?

Things to consider to minimize the impact of damage on the health of your forest and your pocketbook.

Jane Cummings Carlson

What were occasional occurrences two to three decades ago are now a regular part of our annual forest health issues: severe weather and the damage caused by high winds and hail. While the “why” behind these storms is debated at the global level, the business of mitigation often falls directly on a landowner’s shoulders. Standing at the edge of your property, viewing a tangled mass of trees can be quite overwhelming and the urge to take action and take it fast is often the first reaction landowners have. Yet taking a bit of time to access your situation may save you time and money and maintain the sustainability of your precious back forty.

Hey—they’re logging the pine across the road, why can’t they harvest my oak?

If you are planning on salvaging damaged timber, you will want to



consider prioritizing which species are salvaged first. Factors such as the value of the material are very important yet some species are more susceptible to infestation and degradation than others. Red, white and Jack pine all become more vulnerable to infestation by *Ips pini*, the pine bark beetle if their crowns have been reduced (broken branches or tops), bark damaged (hail or felling scars) or if they are uprooted. This increased vulnerability is an issue from early March through early September—when the bark beetles are active. These insects are native to our state and are always present at low levels. They prey on drought-stressed and damaged trees. Completing a life cycle in 6 weeks, *Ips pini* populations can build over the course of a summer, attacking more and more trees¹. So what’s the big deal about these little beetles? They

¹ It is always best to talk to your DNR or consulting forester or a forest health specialist about bark beetle issues as the timing of storm damage and weather influence these insects significantly. Check with your forester for the most pertinent information after a storm event.



also carry a fungus on their bodies that enters the tree during feeding; this fungus causes the wood to stain blue, which lowers the value of the wood significantly, making it unmarketable at times. The building bark beetle populations can also threaten your neighbor's trees and other, healthier pines on your property. As the pine continues to deteriorate, larger wood-boring beetles called pine sawyers start feeding on the dead and dying trees. These insects bore into the wood, deeper than the bark beetles and cause enough damage to make the outer portion of the logs unusable. Perhaps you have stood next to a pile of pine logs and heard the faint sound of "chewing"—this is our buddy the pine sawyer at work.

So if you have a choice, consider salvaging damaged pine plantations first—you will be doing yourself, and your neighbor a good deed.

I'm worried that the storm damage has caused my oaks to be susceptible to oak wilt! Shouldn't I salvage them ASAP?

If the bark of red, black or northern pine oak is broken or removed, or a branch is broken, especially from April 15 to July 1, sap-feeding beetles carrying the fungus that causes oak wilt could feed at these wound sites and transmit the disease. If oaks are damaged in spring (March–May), symptoms of oak wilt (rapid wilting and leaf fall) will occur during the summer (June–August). If the oaks are damaged in the summer (June–August), wilting will occur in the fall or following spring. So you can watch your trees and determine for yourself, whether or not the storm has introduced oak wilt. Basically, if you do not see symptoms for a year, there is a high probability you've made it without an infection.

Science has shown that wounds are susceptible for only 24-48 hours, so if infection occurs, it is within 2 days of injury. Once a tree is infected, we do not know how long it takes for the fungus to move down into the vascular system and into the roots, where it could spread through root grafts. So, unfortunately, there

is no "magic amount of time" you have to salvage your oak to remove the fungus from the stand before it is established in the root system.

The most important consideration when trying to limit the impact of oak wilt is to limit any further wounding until after the high-risk period (April 15–July 1) for oak wilt infection has passed. Limiting salvage activities to a lower risk period will minimize your chances of introducing oak wilt through your activities.

My sugar maples, birch and basswood all have different kinds of damages. How do I know which ones will lead to unhealthy trees and which ones are more cosmetic?

Not all damages are created equal. Sometimes, more dramatic appearing injuries can actually cause less damage to a tree's health. Trees have the ability to form "wound tissue" that closes wounds and slows the wood-decay process. Trees also can "compartmentalize" or put up barrier walls within their stems. These barriers work toward limiting the movement of stain-causing bacteria and fungi as well as decay fungi.

Wounds that typically cause significant "degrade" (lower the value due to the presence of stain and decay) in maple, birch or basswood include:

- ✿ 1 or more wounds ≥ 50 in2 in size or that cover $\geq 30\%$ of tree's circumference
- ✿ >2 large ($>5"$) branches broken close to the stem.
- ✿ A codominant ($\frac{1}{2}$ of top of tree) ripped from stem.

The stain and decay will progress slowly over many years. These kinds of wounds typically **do not** compromise the overall health of a tree—just degrade the value of the wood product. *Note: any time the air temperature is above freezing, stain and decay organisms can be active.

Wounds or other injuries that typically initiate a decline in health or put a tree at high risk for breaking

or failing due to structural damage include:

- ✿ A crack goes completely through a stem or is open (you can stick a pencil in it) for $>4-6'$ (length)
- ✿ Two open cracks occur on the same stem segment (side by side)
- ✿ The stem has an open crack in contact with another defect such as decay, a canker, or weak union.
- ✿ A crack that is open and occurs between large ($>8"$ diameter stems) coming together in a union. (This is at high risk for failure but may not cause mortality if enough healthy crown is left behind after failure).
- ✿ Leaning tree with recent root lifting.
- ✿ Leaning tree with a horizontal crack, long vertical crack, or buckling wood on the underside of the tree.
- ✿ Crown that has lost $>50\%$ of the branches due to breakage. (Some trees may survive this level of damage; their recovery depends on age, vigor, site quality and moisture availability).

Other considerations:

In a perfect world, each woodlot would receive careful consideration and individual attention following storm events but in some cases, widespread damage puts strain on professional resources. Assessment and mitigation can take months. Having a management plan will help you be more prepared for making decisions when it comes time to having a discussion with your forester.

The time of year damage occurs, severity and type of damage, species of tree, management objectives and available soil moisture all influence the impact of storms. It is important that you consult with a professional forester for advice following these events to obtain the latest information. 🌲

Wisconsin Completes Group Certification

Move Said to Be “Critical” to Industry’s Survival in the State

Wisconsin Governor Jim Doyle speaks at a ceremony marking the recent group certification of 2 million acres of private forestland regulated by the state’s Managed Forest Law (MFL). All properties covered by the law were automatically certified.

Steve Wilent

In one fell swoop this past June, 37,000 private forest properties in Wisconsin were certified through the American Tree Farm System Group Certification Program. The certification covers nearly 2 million acres regulated by the state’s Managed Forest Law (MFL), a voluntary program under which owners of 10 or more acres who have a written forest management plan approved by the Wisconsin Department of Natural Resources (DNR) pay lower property taxes.

All properties covered by the MFL were automatically certified, but land owners may request to be removed from the certification program. So far, about 1 percent of owners have opted out, according to the DNR. Participation in the group certification program is free to landowners; the DNR paid the certification fees and auditing costs on their behalf. The DNR acts as the group certification manager.

NSF International Strategic Registrations Ltd. performed the audit of a sample of private MFL lands. The company found that the MFL lands met or exceeded the American Tree Farm System (ATFS) Standards of Sustainability for Forest Certification. The American Forest Foundation, a nonprofit education and conservation organization, operates the ATFS program, a national organization of family forest landowners and volunteer foresters. With the group certification, the number of ATFS-certified properties nationwide increased from about 51,000 to more than 80,000.

“The auditors were skeptical that we could actually administer a program with that many land owners and have an effective method of enforcement and monitoring,” said Paul Pingrey, a DNR certification specialist. “When they were done,

they said they were astonished at how well-managed the lands are.”

Wisconsin state forests (512,000 acres) and county forests (2.4 million acres) are dual certified under Forest Stewardship Council (FSC) and Sustainable Forest Initiative (SFI) standards. With the addition of the MFL group certification, about one-third of the forestland in Wisconsin is certified.

“Certification is crucial to addressing the growing demand for certified forest products from many of the large purchasers of Wisconsin products, particularly in the pulp and paper industry,” said DNR Chief Forester Paul DeLong. “Increasingly, timber buyers and consumers are demanding products made from sustainably managed, certified forests. Making our forests sustainable is fundamental to assuring that they continue to provide ecological, economic, and social benefits both today and for generations to come.”

Because SFI and ATFS have formally recognized each other’s standards since 2000, timber from the now-certified MFL lands can be accepted by mills that buy only SFI-certified wood. This is critical not only to satisfy an increasing demand for certified wood, but also to help the forest products industry to survive in Wisconsin, said John G. DuPlissis, CF, a forest resources instructor at the University of Wisconsin-Stevens Point. For example, companies such as Stora Enso and TI Paperco (the paper purchasing subsidiary of Time Inc.) said they would have to look elsewhere for certified wood if Wisconsin couldn’t produce enough of it.

“Private land owners provide a little over 60 percent of the timber that goes into our pulp mills,” said DuPlissis. “So it was very important to get these lands under a certification program that would allow the

mills to include that timber in their certification accounting.” About 57 percent of Wisconsin’s forest lands are in private ownership, according to the Forest Service’s North Central Research Station. Of about 230,600 individuals, 92 percent own 100 or fewer acres. In contrast, about 7 percent of the state’s lands are held by forest products companies.

“The group certification guarantees that woodland owners will be able to sell their wood, and it guarantees the mills that they have a source of fiber that they can tell their buyers is from certified, sustainably managed woodlands,” DuPlissis said.

So far, however, it’s not clear whether sellers are getting higher prices for certified timber.

Global Markets

Bob Simpson, director of the ATFS, said that certification will help small woodland owners gain access to global wood markets. ATFS hopes to gain an endorsement for its standards from the Programme for the Endorsement of Forest Certification (PEFC), a mechanism for the recognition of national or regional forest certification schemes that have been developed based on internationally recognized requirements for sustainable forest management. Simpson was named to the PEFC Board of Directors in 2003.

“We are now trying to put together enough funding to allow us to go through PEFC endorsement, so that we have international accreditation,” said Simpson. “There is a big demand internationally, and in Europe especially, for hardwood veneers that are certified. With an endorsement from PEFC, we would really open up these markets for small landowners.” The SFI standard



is now under consideration for endorsement by the PEFC Council.

The ATFS certification standards are far less comprehensive than the SFI or FSC standards, which were designed for large regional, national, or international land managers, not for family forest owners, Simpson said.

"Certification is pretty confusing to many private landowners. It's a big leap for many people who haven't been involved with American Tree Farm System," said the DNR's Pingrey. "The ATFS standard is designed to fit the scale of these smaller operations. It's very clean and easy to understand." Bill Horvath, a member of the Wisconsin Woodland Owners Association (WWOA) Board of Directors who also is a member of the state Council of Forestry advisory board, said most WWOA members will stay with the group certification program. "It's just good business—it's something I've been pushing for," said Horvath. "And it's so critical now, since so many of the big companies have divested themselves of their property."

However, Horvath says many woodland owners entered the MFL program primarily for the tax breaks, and know little about certification and how it may affect them. He expects participation in the MFL program to increase, less because of the group certification than the tax breaks.

"The value of woodland in Wisconsin is just skyrocketing," he said. "It's the high taxes more than anything else that will drive people to the MFL program." The certification of the MFL lands is the first group certification of lands overseen by a state forestry agency. Several other state-wide and regional groups are certified by ATFS, such as the South Carolina section of MeadWestvaco's Cooperative Forest Management program, which provides forest management services to more than 3,500 nonindustrial private forest landowners in the southeastern United States. ♣

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Winter reading and gift ideas

Two books produced last year during the 2004 Year of Wisconsin Forestry are still for sale and would make wonderful holiday gifts for people on your list!

"One Hundred Years of Wisconsin Forestry," a 130-page hardcover book with a color insert, chronicles the evolution of sustainable forestry in Wisconsin over the past 100 years. You can order this book by sending a check payable to WWOA for \$24.95 plus \$4 shipping and handling to Wisconsin Woodland Owners Association (WWOA), P.O. Box 285, Stevens Point, WI 54481. If you have questions about this book, contact WWOA at 715-346-4798.

If you have any 4 to 7 year-old children on your holiday gift list, you'll want to get them a copy of the picture book called "In Grandpa's Woods" in which two children discover the many joys and benefits of forests as they visit their grandparents' woods. This book is available from Trees For Tomorrow in Eagle River, Wisconsin. You can purchase it online at <http://www.treesfortomorrow.com/books.htm> or by phone at 1-800-838-9472. An e-version of the book is online at <http://wisconsinforestry.org/>

The University of Wisconsin Press (<http://www.wisc.edu/wisconsinpress/>) also has several books that may be of interest. "Invasive Plants of the Upper Midwest" by Elizabeth Czarapata is a guide to invasive species that are currently endangering native habitats in the region. Madison arborist R. Bruce Allison has two books available through the UW Press: "Wisconsin's Champion Trees: A tree hunter's guide" and "Every Root an Anchor: Wisconsin's Famous and Historic Trees" (you can also read this one online at: <http://dnr.wi.gov/org/land/forestry/Publications/everyrootananchor.html>)

What could be better on the upcoming cold winter nights than curling up in front of a hot fire while reading about Wisconsin trees and forests! ♣

Winter Opportunities for Woodland Owners

As the days grow colder and shorter many of us spend more time indoors thinking about our woodlands rather than outside enjoying them. This is the perfect time to browse websites or your local library's bookshelves to learn more about managing your woodlands.

There are many good websites available to help woodland owners find the information they need. The newly updated WI DNR <http://dnr.wi.gov/index.asp> has many pages of information and a variety of links to natural resources related topics. The Wisconsin Woodland Owners Association (WWOA) website <http://www.wisconsinwoodlands.org/> also has an extensive list of forestry links under their "Resources" button. At WWOA's website you can find links to identifying tree species on your land <http://www.uwsp.edu/cnr/cwes/forestree/> or <http://www.uwsp.edu/cnr/leaf/treeid.htm> or to stories from other woodland owners about their land <http://basineducation.uwex.edu/woodland/experience/index.htm>

The winter woodland owner conference series is open to all woodland owners and is another great opportunity to get out of the house to meet fellow woodland owners while spending the day learning something new that could save you time or money or both in managing your woodlands. The WWOA website <http://www.wisconsinwoodlands.org/> has a calendar of events listing these conferences which run across the state from January to March. ♣

Put a TIGER In Your MFL Plan!

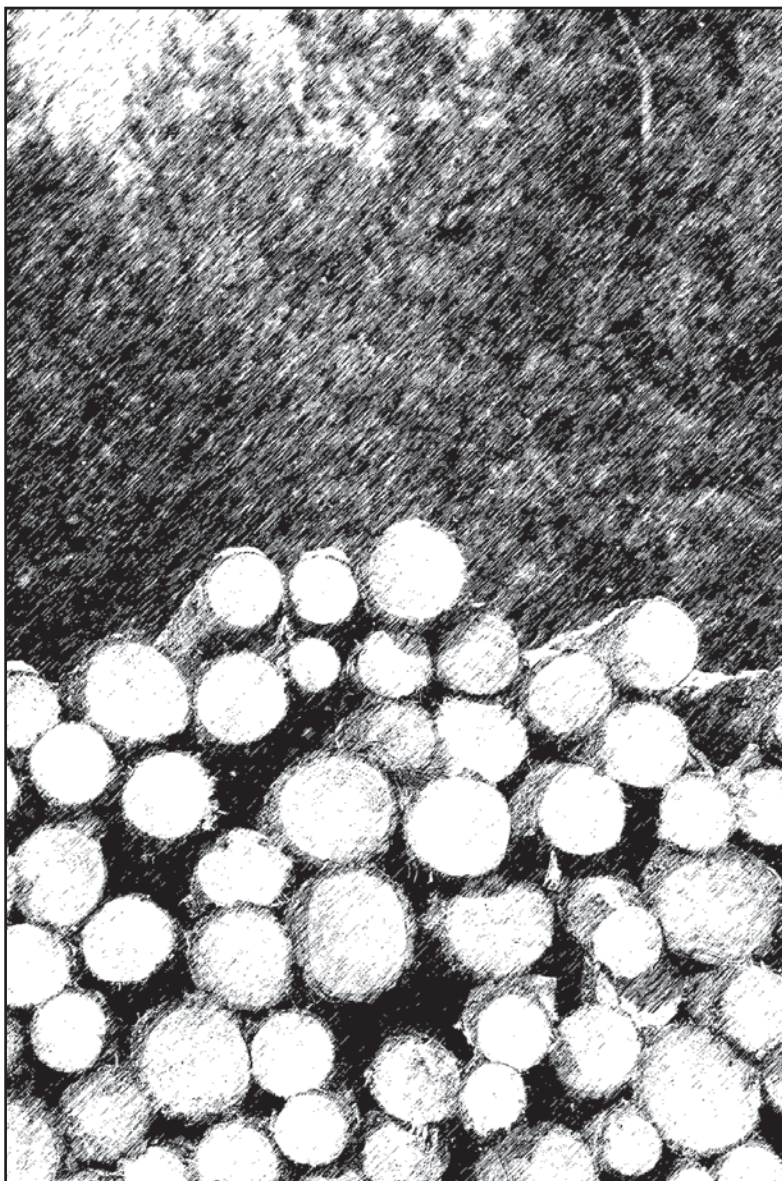
Dick Hall

TIGER stands for Timber Inventory, Growth & Economic Review. It's a new Windows software program developed for Wisconsin woodlands. With TIGER on your personal computer you'll always know how much timber you have, how fast it is growing, and what it is worth. It adds valuable information to your MFL plan.

TIGER is a do-it-yourself timber inventory program and it's easy to use. You locate sample plots on each stand on your woodlot management map. Then, using tools provided with the software, you identify trees on the plot, determine diameters, saw log or pulp wood heights, and note some other characteristics of each tree. Hands-on training and instruction manuals are provided.

Once field data is entered into your computer TIGER will calculate the saw timber, veneer, and cord wood volume by species and show the current stumpage value for each. It will then project board foot and cord volume, growth, and value at five year intervals for 20 years. The growth factors TIGER uses have been derived from actual Wisconsin stands. You'll know how much wood you are growing and its estimated dollar value at each five year interval into the future.

TIGER offers eleven thinning and harvesting scenarios to manage your trees. You can play "what if" games



to see what practices best meet your objectives for income, wildlife, the natural scene, and future growth potential.

At harvest time you can present TIGER data to several foresters and select the one who can best serve you needs. Because the original inventory data developed for your MFL plan is less detailed than TIGER data, you may find you can harvest logs or pulp at shorter intervals or in greater volumes than mandatory harvests call for in your plan.

Using TIGER data from your woodland makes it easy to practice sustainable forestry with the high-

est possible returns in wood, wildlife, and income. It lets you take control and get greater return and satisfaction from your MFL agreement.

Collecting field data from your woodland requires attention to detail but is easy and pleasant to do. It can involve the whole family. It's a good place to introduce younger generations to woodlot activities. Using computers comes naturally to youngsters. They'll quickly learn that woodlots are dynamic communities that grow new wood even though it is difficult to observe.

You'll find there are income tax advantages in using TIGER to manage your woodlot. Record keeping is easier. It's easy to establish a "timber basis" for determining taxing harvested timber. TIGER will do an economic analysis of your timber as an investment with just a few key strokes. Users often find the results surprising. Managed

timber stands usually out perform stock portfolios.

Wisconsin TIGER users find they know more about the inner workings of their woodlots, make more timely management decisions, and are making more money. What they like best is that loggers can never take advantage of them. The complete TIGER package costs about \$125, less than the cost of a low end chain saw. You can learn more at www.wistiger.com. 🍷

Annosum Root Disease: Prevention is the Key

Jane Cummings Carlson

Forest Health Coordinator, WI Dept. of Natural Resources, and

Dr. Glen Stanosz

Professor, Department of Forestry and Plant Pathology, University of Wisconsin, Madison

Background

Red pine, planted in plantations for decades in Wisconsin, was long thought to be a species relatively free from major insect and disease problems. Indeed, for many years, the major health issue related to mid-aged and older red pine plantations has been limited to the occasional bark beetle outbreak associated with dry summer weather. Yet as many of Wisconsin's red pine plantations are thinned for the second and third time, a new disease is slowly yet menacingly moving onto the scene.

Annosum root disease, caused by the fungus *Heterobasidion annosum*, was first identified in Wisconsin in 1993 by Drs. Glen Stanosz and William Kearby. It is considered among the most important and destructive diseases affecting conifers in the north temperate regions of the world. Over 200 woody species have been reported as hosts. Red, white and jack pine and white spruce are the species most likely to be infected in Wisconsin, particularly in plantations subjected to thinning. Annosum root disease has been present for many years in the conifer forests of the southeastern and western United States and is considered native to North America.

Distribution

Since the first report in 1993, several surveys have revealed its presence in

thirteen counties including Adams, Buffalo, Dunn, Green, Iowa, Jefferson, LaCrosse, Marquette, Richland, Sauk, Trempealeau, Walworth, and Waukesha. All of the root disease centers are in red pine plantations, yet infection has also been observed on an occasional white and jack pine, red oak and red cedar in these locations. In spite of statewide survey efforts, not every red pine plantation is surveyed thus Annosum root disease is likely present in additional locations.

Biology/Symptoms & Signs

How does this disease get started in a stand? Infection most often occurs when basidiospores, produced by the fungus's fruit body, land and germinate on the surface of a freshly cut stump. This infection process creates a strong relationship between Annosum root disease and thinned stands as thinning creates stumps. Infection may also occur through wounds in the root and lower stem. Basidiospores are most often produced when the temperature is between 5°–32° C (41°–90° F) and can be carried in the wind over hundreds of miles; most spores are deposited within 90 meters (300 feet).

The fungus colonizes the stump tissue and then moves into the root tissue to progress from tree to tree via root contact at the rate of approximately 1–2m/yr (3.2–6.5 ft/yr). As it colonizes the wood, *Heterobasidion annosum* degrades both the lignin and the cellulose to cause a stringy yellow rot in the roots and lower stem. Disease in the roots results in crown symptoms that typically appear 2–3 years after a thinning. Affected trees will have thin crowns, reduced height, diameter, and shoot

growth. Root disease centers or "pockets" develop as the disease progresses and may contain one to many dead trees surrounded by recently dead or dying trees.

Fruit bodies eventually form at the root collar of some diseased trees and stumps, spores are released and the cycle continues. The fruit bodies are produced so low on a tree's stem, that they often go unnoticed, unless the needles and soil are scraped away from around the base of the tree. Fruit bodies typically first appear in June as small, white, popcorn-like growths. By October, they are bracket-shaped—reddish brown on the top and white on the lower surface. Fruit bodies are perennial yet undergo partial deterioration each year.

Another, very similar disease/insect complex known as **red pine pocket mortality** has the same symptoms and can easily be confused with Annosum root disease. In fact, both Annosum root disease and red pine pocket mortality can occur in the same disease center or pocket. For a complete explanation of these two diseases, please refer to publication: Annosum Root Rot and Red Pine Pocket Mortality available at <http://www.dnr.state.wi.us/org/land/forestry/Fh/index.htm> Or request a copy of the publication from Jane Cummings Carlson: jane.cummings-carlson@dnr.state.wi.us; 608-275-3273.

Impact

Infected trees will have reduced height, shoot and diameter growth and thin foliage. These symptoms typically appear 2–3 years after a thinning. As decay progresses in the root system and into the lower stem, the tree will become more susceptible to wind throw and may

For further information, or to report the presence of Annosum root rot or Red Pine Pocket Decline, contact a member of the DNR Forest Health Protection staff.

Shane Weber, Spooner
715-635-4156
Shane.weber@dnr.state.wi.us

Kyoko Scanlon, Madison
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eventually die. Red, jack and white pine seedlings and saplings in close proximity to diseased overstory trees may also become infected. The number of disease centers in a stand can vary widely. (One 40-acre stand in Sauk County, presumably infected during a thinning operation, developed 29 infection centers in approximately 10 years.) Canopy gaps that result from death of trees allow brush and early successional trees to fill into the gap.

Site/Stand Factors

In the southeastern United States, disease development is more common on land formerly used for agriculture and with a pH >6 than on old forest soils. Sandy or sandy loam soils at least 30 cm (12 inches) deep, with good internal drainage and a low seasonal water table are also considered sites favorable for disease development. The influence of site factors on disease progression has not yet been studied in Wisconsin.

Management

The best management for Annosum root disease is prevention! Fortunately, there is a product registered to treat freshly cut stumps that makes the woody tissue an unfavorable environment for disease development. The product, Sporax (sodium tetraborate decahydrate) has been used successfully to prevent establishment and growth of *Heterobasidion annosum* in cut stumps of conifer tree species that are **not** already infected and is currently registered by the EPA for use in Wisconsin. **Stumps must be treated as soon as possible after cutting and no later than one day after cutting.** Sporax⁴ is typically applied from a container with a perforated lid. One pound of Sporax will cover 50 square feet of stump surfaces. This is equivalent to 260, 6-inch (15 cm) diameter stumps or 60, 12-inch (30 cm) diameter stumps.

Efforts over the past 5 years by land managers in southwest Wisconsin, have shown the critical importance of communication between the timber harvester and land manager in correctly integrating treatment with the harvest plan. The timber harvester must take care NOT to cover the stumps with tops or piles of logs each day so access to the stumps can be made for daily treatment. The land manager must clearly state requirements of the timber harvest in the contract and appropriately compensate the harvester for the added care.

Of course, not everyone's situation will be the same and each stand must be evaluated based on current disease status.

1. If Annosum root disease is scattered throughout a stand:
 - a) Expect tree mortality in pockets and growth loss in trees on the pocket margin.
 - b) During thinnings and salvage operations, leave dead and dying trees on the site to minimize the movement of fruit bodies off site to uninfected areas of the state. Minimize felling and skidding wounds.
 - c) Cutting and burning dead and infected trees on the site may aid in reducing the formation of fruit bodies.
 - d) After harvest, infected sites may be replanted or naturally regenerated to conifers. In the southeastern United States, regeneration losses of approximately 5% with additional disease development following thinnings have been reported. This data is not yet available for Wisconsin; some losses of regeneration are expected for our area as mortality of both red and white pine regeneration within Annosum pockets has been observed. Some deciduous trees are susceptible but tend to sustain lower mortality; conversion to hardwoods, if appropriate for the site, should be considered.
2. If Annosum root disease is rare in a stand (one center) or if centers are widely spaced with large (>40a) blocks of healthy conifers in-between centers:
 - a) During thinnings, leave dead and dying trees on the site to minimize the movement of fruit bodies off site to uninfected areas of the state. Minimize felling and skidding wounds.
 - b) Cutting and burning dead and infected trees on the site will aid in reducing the formation of fruit bodies.
 - c) To limit the formation of new infection centers during thinning, there are two options:
 - 1) Treat all freshly cut stumps with Sporax. Sporax will help prevent new infections but will not stop the movement of *Heterobasidion annosum* through root systems that are already infected.
 - 2) Provide no treatment to the stumps and expect some infection. A native decay fungus, *Phlebiopsis gigantea*, has been known to invade freshly cut stumps and prevent successful infection by *Heterobasidion annosum*. The percentage of stumps protected naturally by *P. gigantea* is unknown.
 - d) After harvest, the site may be planted or naturally regenerated to conifers. (See also 1.d)
3. If Annosum root disease is not present in the stand:
 - a) If you are planning a thinning, consider treating freshly cut stumps with Sporax. The risk of infection by Annosum will be higher the closer you are to infected stands. The known locations of Annosum root rot listed in this article resulted from surveys conducted in randomly selected plantations. The probability of additional infection centers being present in Wisconsin is high.

⁴ Sporax is currently available in 25-pound bags from one source: Wilbur-Ellis Company, P.O. Box 15289, Sacramento, CA, 95851-0289. Phone: 1-800-426-3491; website: www.wilbur-ellis.com.

Summary

It has been 12 years since Annosum root rot was first observed in Wisconsin. During that time, surveys have revealed its presence in 13

counties and its ability to initiate multiple infection centers within a stand after a single thinning has been shown. Management options are available and NOW is the time to take notice of this disease before it

slips in the back door of your stand. If you suspect you have Annosum root disease and would like more information, please contact your local DNR forest pest specialist. 🌲

Final NR 46.30 Stumpage Rates—2006

NR 46.30(2)(a) Logs (stumpage value per thousand board feet measurement by the Scribner Decimal C log rule).

2006 Rates - Effective Nov. 1, 2005

	ZONES												
	1	2	3	4	5	6	7	8	9	10	11	12	13
	Waukesha	Green Bay	Crivitz	Wausau	Wautoma	Dodgeville	Rhinelander	Adams	Richland Center	Hayward	Eau Claire	River Falls	Sparta
Cedar	80.00	126.75	90.94	80.00	25.00	80.00	80.00	80.00	NA	80.00	80.00	80.00	80.00
Fir	NA	146.57	146.57	94.17	NA	NA	100.00	NA	NA	126.16	110.00	100.00	110.00
Hemlock	NA	80.51	70.00	70.37	NA	NA	70.00	NA	NA	80.51	100.00	80.51	80.51
Pine													
Jack	61.93	61.93	61.93	61.93	30.05	61.93	100.00	61.93	61.93	61.93	61.93	61.93	61.93
Red	135.00	38.43	127.04	124.64	125.00	110.00	135.64	113.63	107.14	103.45	132.40	121.82	160.64
White	85.00	97.88	142.21	129.23	119.23	100.00	137.21	137.32	142.44	106.59	183.65	124.80	101.46
Spruce	61.79	61.79	99.03	61.79	78.33	61.79	105.00	61.79	61.79	95.00	61.79	80.00	61.79
Tamarack	80.00	80.00	80.00	80.00	80.00	80.00	80.00	80.00	80.00	80.00	80.00	80.00	80.00
Aspen	50.00	55.65	50.00	37.90	51.49	90.01	73.01	47.20	68.40	55.00	60.08	24.62	60.00
Ash	125.66	166.78	104.63	145.88	120.09	198.00	186.12	124.62	164.26	128.23	152.61	110.24	140.00
Basswood	140.94	154.14	170.40	205.89	83.50	180.53	252.08	142.91	167.70	189.56	177.92	144.56	117.07
Birch													
White	110.00	74.39	282.06	162.08	24.00	195.08	202.55	100.00	87.50	110.32	65.76	91.54	30.00
Yellow	200.00	281.08	273.15	215.26	209.00	281.08	266.58	281.08	281.08	240.94	174.71	281.08	281.08
Elm	80.00	59.10	94.50	156.50	100.00	94.42	201.91	76.54	89.14	89.00	93.46	93.46	85.00
Maple													
Sugar	430.53	447.12	433.87	439.38	462.83	404.22	440.96	343.66	438.18	346.29	399.22	350.00	120.00
Other	126.00	252.00	80.00	177.07	189.30	160.88	136.92	201.83	125.00	245.41	147.18	95.62	100.00
Oak													
Red	454.39	520.78	343.68	447.74	495.04	409.82	355.40	449.93	435.88	251.90	414.81	350.00	426.48
White	100.00	150.38	197.73	199.33	201.62	238.26	177.69	158.47	217.26	121.12	127.50	173.67	195.47
Other	228.52	252.32	133.02	124.88	154.84	187.54	100.00	111.92	191.32	77.15	169.43	249.59	129.20
Other Hardwood	143.81	122.76	187.38	180.14	322.75	292.39	263.61	104.30	199.16	147.32	149.45	150.00	120.28
Black Walnut	783.33	NA	NA	NA	NA	1288.17	NA	1201.51	1267.24	NA	400.00	908.55	1000.00
Cherry	500.00	NA	250.00	333.72	581.35	733.33	461.92	581.35	581.35	431.67	225.00	509.26	200.00

NA—Not Applicable—This species/product is not normally harvested within this zone.

Note: Stumpage values used to calculate severance and yield taxes during any specific period are intended for the purposes of the Forest Crop Law and Managed Forest Law. They are not a guarantee of actual market prices. Actual market prices can fluctuate, both up and down, and are the product of macro and micro-economic conditions reflecting specific factors of each individual sale.

NR 46.30(2)(b) Cord Products—128 cubic feet of wood, air and bark assuming careful piling

2006 Rates - Effective Nov. 1, 2005

	ZONES												
	1	2	3	4	5	6	7	8	9	10	11	12	13
	Waukesha	Green Bay	Crivitz	Wausau	Wautoma	Dodgeville	Rhine- lander	Adams	Richland Center	Hayward	Eau Claire	River Falls	Sparta
Cedar	9.93	9.93	27.27	15.88	9.93	9.93	9.93	9.93	NA	9.93	10.10	9.93	9.93
Fir	NA	21.83	19.75	20.00	NA	NA	20.00	17.08	NA	21.47	21.62	17.08	17.08
Hemlock	NA	8.74	14.62	7.47	NA	NA	11.75	8.74	NA	10.01	8.74	11.93	8.74
Pine													
Jack	35.00	22.00	42.97	37.48	39.77	30.00	35.78	41.90	33.30	43.38	34.74	46.54	37.48
Red	30.05	22.00	48.08	41.32	44.60	22.50	43.67	42.17	32.39	44.65	48.79	39.86	42.54
White	25.00	15.39	25.99	20.84	37.23	14.02	25.31	32.01	20.75	17.42	27.96	24.11	27.14
Spruce	30.00	18.58	30.93	35.99	41.39	12.50	31.28	30.54	22.65	30.46	35.87	29.11	38.00
Tamarack	19.29	10.05	24.52	15.22	13.49	21.39	13.43	21.39	21.39	17.88	25.28	21.39	21.39
Aspen	18.00	15.18	27.52	25.00	11.83	7.97	25.00	19.79	13.98	29.86	23.69	24.37	16.22
Birch	22.18	13.59	23.66	18.74	20.00	10.00	23.19	13.94	10.00	19.79	17.02	14.51	8.87
Basswood	7.13	8.77	5.28	8.85	3.00	5.00	7.04	5.02	8.77	5.66	5.63	3.11	8.77
Oak	13.28	20.00	20.98	8.25	9.58	5.00	15.67	10.54	8.68	12.28	11.83	8.79	11.98
Other Hard- wood	10.00	9.96	22.79	18.46	12.76	7.40	20.00	18.68	11.02	20.45	19.50	14.39	16.10
Fuelwood	8.30	9.96	11.74	6.72	9.00	7.40	8.55	7.15	5.50	5.00	6.23	8.55	8.55

NA - Not Applicable - This species/product is not normally harvested within this zone.

Note: Stumpage values used to calculate severance and yield taxes during any specific period are intended for the purposes of the Forest Crop Law and Managed Forest Law. They are not a guarantee of actual market prices. Actual market prices can fluctuate, both up and down, and are the product of macro and micro-economic conditions reflecting specific factors of each individual sale.



NR 46.30(2)(c) Piece products (stumpage value per piece)

2006 Rates - Effective Nov. 1, 2005

	ZONES												
	1	2	3	4	5	6	7	8	9	10	11	12	13
	Waukesha	Green Bay	Crivitz	Wausau	Wautoma	Dodgeville	Rhine- lander	Adams	Richland Center	Hayward	Eau Claire	River Falls	Sparta
Posts & Poles													
7 and 8 ft.	0.71	0.63	0.54	0.72	0.65	0.71	0.59	0.77	0.71	0.77	0.70	0.62	0.63
10 and 12 ft.	2.12	1.88	1.61	2.15	1.95	2.12	1.77	2.32	2.12	2.30	2.11	1.87	1.88
14 and 16 ft.	3.53	3.13	3.15	3.58	3.26	3.53	2.95	3.87	3.53	3.83	3.52	3.11	3.13
18 and 20 ft.	7.02	6.21	5.33	7.12	6.47	7.02	5.87	7.70	7.02	7.62	6.99	6.18	6.21
21 and 30 ft.	10.07	8.91	7.65	10.22	9.29	10.07	8.42	11.04	10.07	10.93	10.03	8.87	8.91
31 and 40 ft.	17.40	15.39	13.21	20.00	16.05	17.40	20.00	19.08	17.40	20.00	17.32	15.32	15.39
41 and 50 ft.	26.02	23.02	19.75	25.00	24.00	26.02	25.00	28.53	26.02	28.24	25.90	22.91	23.02
51 and 60 ft.	35.94	31.79	27.28	36.46	33.15	35.94	30.06	49.50	45.00	39.01	35.77	31.65	31.79
61 and 70 ft.	47.00	41.58	73.00	47.68	43.35	47.00	39.31	51.54	47.00	51.01	46.79	41.39	41.58
Christmas Trees													
Unsheared	2.00	2.00	2.00	2.00	2.00	2.00	3.82	2.00	2.00	2.84	2.00	4.00	3.00
Sheared	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70	6.70

Note: Stumpage values used to calculate severance and yield taxes during any specific period are intended for the purposes of the Forest Crop Law and Managed Forest Law. They are not a guarantee of actual market prices. Actual market prices can fluctuate, both up and down, and are the product of macro and micro-economic conditions reflecting specific factors of each individual sale.

